



DEPARTMENT OF  
UTILITIES

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October 14, 2009

Todd A. De Frate  
Engineering Geologist  
Title 27 Compliance and Enforcement Unit  
California Regional Water Quality Control Board  
Central Valley Region  
11020 Sun Center Drive #200  
Rancho Cordova, CA 95670-6114

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CVRWQCB  
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**Re: Response to RWQCB Review Comments dated August 19, 2009  
Closure and Post-closure Maintenance Plan  
Dellar Property, Sacramento, California**

Dear Mr. De Frate:

This letter responds to review comments communicated to the City of Sacramento (City) and the Dellar Trust in the California Regional Water Quality Control Board (RWQCB) letter of August 19, 2009 regarding the 2008 Final Closure and Post-closure Maintenance Plan (FCPMP) for the Dellar Property located in Sacramento, California.

**BACKGROUND**

On February 24, 2006, RWQCB issued a Draft Cleanup and Abatement Order (CAO) to both the City and the Dellar Trust. The parties responded in letters dated April 18, 2006 and April 26, 2006, respectively. Copies of these letters are attached. Both parties commented that there were serious issues with the Draft CAO, including the groundwater data interpretations used by RWQCB to conclude the property was impacting groundwater.

The CAO was adopted on June 4, 2008. The language in the CAO implies that groundwater impacts have occurred as a result of the Dellar site; however, that is not definitively stated. The CAO included a schedule for preparation of the FCPMP for the site and a schedule of milestones to be achieved. The 2008



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FCPMP was submitted in accordance with the schedule. RWQCB comments on the 2008 FCPMP are the subject of this response letter.

## **APPLICABILITY OF TITLE 27**

SCS Engineers (SCS) acted as the California Integrated Waste Management Board (CIWMB) state-wide consultant for closed, inactive and abandoned (CIA) landfill sites from March 2006 through March 2008. The over-riding objectives in investigating and remediating these sites were to protect public health and the environment. This was typically accomplished by isolation (covering of waste), control of erosion and drainage, and making sure that groundwater was not impacted. If groundwater was not impacted, then isolation and drainage/erosion control measures were implemented at these sites.

Although the Dellar Property CAO of June 4, 2008 implies that groundwater may have been impacted by the Dellar Property, there is no statement that this has unequivocally happened. This assessment is consistent with the City's position and previous documentation submitted to RWQCB that groundwater impacts have not been confirmed at the Dellar site. Absent impacted groundwater, Title 27 of the California Code of Regulations (CCR) closure requirements are not triggered for the site, which closed prior to the Title 27, Section 20080(g) trigger date of November 27, 1984. Additional details on the groundwater situation at the site are provided below.

To help prevent future impacts, the appropriate and responsible action by the City would be to re-grade the landfill to promote positive drainage throughout and to incorporate erosion protection measures. This would be accomplished by the grading, drainage, and monitoring proposed by the City in the 2008 FCPMP for the Dellar Property. This was the agreed upon plan that the City worked out with the RWQCB after review of the draft CAO and is reflected in Condition No. 21 of the adopted CAO. Your letter of August 18, 2009 implies something different and is thus inconsistent with previous agreements between the City and RWQCB and is inconsistent with the final CAO.

## **GROUNDWATER ASSESSMENT**

In 2006, RWQCB issued a Draft CAO for the Dellar Property Landfill in which several assumptions were made about groundwater conditions leading to a conclusion that the property may have contributed to groundwater impacts and was, therefore, subject to Title 27 groundwater monitoring requirements. In responding to the Draft CAO, the City addressed the assumptions made, many of which were incorrect, and concluded that based on all available evidence, the Dellar property had not contributed to groundwater degradation. The primary issue was that RWQCB compared the concentrations found in wells near the river with wells located inland from the river. Because the concentrations were higher inland, it was concluded by the RWQCB that there must be an impact. The problem was that the wells near the river contain completely different water than

those farther inland where the influence of infiltrating river water is not present. This led to incorrect conclusions based on wrong assumptions.

Inorganic concentrations for the wells near the Dellar property, when compared to other wells of a similar distance from the American River, had similar inorganic concentrations and water profiles. Organic compounds detected south of the site were attributable to offsite commercial/industrial sources and, in the case of MTBE (methyl tert-butyl ether) detection, could not have originated from the landfill. On this basis, it was concluded that there was no evidence of a groundwater impact specific to this site, and therefore, the conclusion that the site should be subject to Title 27 was not valid.

In January 2007, the City submitted the Proposed Plan for Resolution of Dellar Property Issues, in which it was proposed that ongoing groundwater monitoring be accomplished through the already established and approved monitoring system for the 28<sup>th</sup> Street Landfill. This system contains several wells in proximity to the Dellar Property. These wells were installed knowing there had been historic waste disposal operations in the area, and these wells provide monitoring points suitable to monitor groundwater quality in the area, including the area of the Dellar property.

In June 2008, RWQCB issued the final CAO R5-2008-0705 in which it was concluded, once again erroneously, that the property was possibly contributing to groundwater degradation for specific conductance, total dissolved solids (TDS), and chloride. Again, values given in the CAO were for the wells specifically around the Dellar property, including river water influenced background wells, and did not consider the results comparative to other wells in the area at similar distances from the American River. The CAO listed data ranges and average concentrations observed for wells B-4, C-13, C-14, and C-20.

- When compared to other wells near the river, Well B-4 had an average specific conductance of 276  $\mu\text{mhos/cm}$  compared to a mean for all wells of 275  $\mu\text{mhos/cm}$ . TDS was listed at an average of 162 mg/L versus a mean for all wells near the river of 174 mg/L. Chloride for B-4 was listed at an average of 5 mg/L versus a mean for all wells near the river of 10.6 mg/L.
- When compared to other wells an intermediate distance from the river, Well C-13 had an average specific conductance of 1,033  $\mu\text{mhos/cm}$  compared to a mean for all wells of 683  $\mu\text{mhos/cm}$ . TDS was listed at an average of 353 mg/L versus a mean for all wells intermediate distance from the river of 385 mg/L. Chloride for C-13 was listed at an average of 53 mg/L versus a mean for all wells intermediate distance from the river of 55.3 mg/L.

- When compared to other wells greater distance from the river, Well C-14 and C-20 had an average specific conductance of 1,876 and 1,611  $\mu\text{mhos/cm}$ , compared to a mean for all wells of 1,326  $\mu\text{mhos/cm}$ . TDS was listed at an average of 822 mg/L and 1,042 versus a mean for all wells farther from the river of 804 mg/L. Chloride for C-14 and C-20 was listed at an average of 150 and 56 mg/L versus a mean for all wells further from the river of 101.4 mg/L.

While some of these inorganic concentrations are greater than other wells of comparable distance from the river, some concentrations are either within the ranges observed for these wells, or even clearly below concentrations observed in other wells. Therefore, the 2008 CAO has again made a wrong conclusion by basing a comparison between perceived up gradient wells that are influenced by the river with perceived down gradient wells that are not influenced by the river and are more mineralized due to longer residence time with the subsurface materials and lack of aquifer flushing.

The City again contends that there is no reasonable and defensible evidence to show any impacts to groundwater from the Dellar property. It was proposed that the monitoring system for this site be contained in the overall approved monitoring program for the 28<sup>th</sup> Street Landfill and that a separate water monitoring system specific to this site is not warranted, reasonable, nor would such a program provide additional useful information.

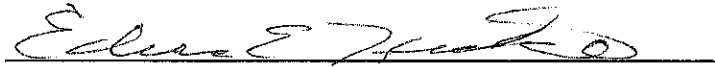
It is recommended that, as part of the semi-annual and annual reporting for the 28<sup>th</sup> Street Landfill, the City will establish a section of the report that will specifically discuss the results of the monitoring points near the Dellar site in terms of the historic trends and comparison to other wells in the 28<sup>th</sup> Street monitoring program. All other elements of the groundwater monitoring program specified in the CAO are met through the 28<sup>th</sup> Street program, including background monitoring points and other criteria.

## **CLOSING**

Even though the City and the Dellar Trust do not agree that groundwater impacts have occurred to date due to releases from the Dellar property, we understand the RWQCB's concern that future groundwater impacts could occur due to the state of the cover system and drainage features at the site. As such, the proposed final grading, drainage, and monitoring improvements outlined in the 2008 FCPMP were submitted with those concerns in mind. This was also the agreed upon plan that the City worked out with the RWQCB after review of the draft CAO and is reflected in the adopted CAO.

We request that the previously agreed upon grading, drainage, and groundwater monitoring concepts presented in the 2008 FCPMP be approved by RWQCB. We also request a meeting with RWQCB staff to further discuss the noted issues and arrive at a final resolution.

Thank you for your attention to this matter.

  
Edison Hicks, Integrated Waste General Manager

Attachments (2)

cc: Steve Rosenbaum  
Marty Hanneman, Department of Utilities, City of Sacramento, Sacramento  
Bill Busath, Department of Utilities, City of Sacramento, Sacramento,  
Dave Brent, Department of Utilities, City of Sacramento, Sacramento  
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Frank Davies, California Integrated Waste Management Board,  
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Arelia De Luna Garcia, moon Broadcasting Sacramento, LLC, Los Angeles

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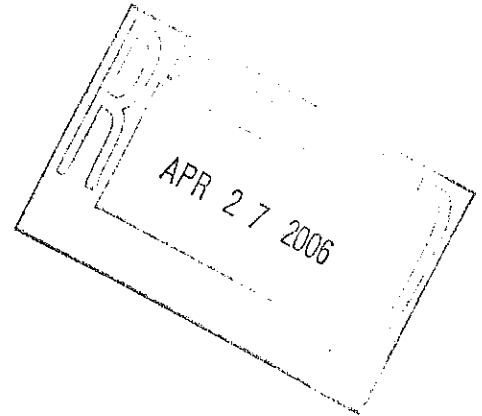
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April 21, 2006

*Via Email & U.S. Mail*

Steve Rosenbaum  
Regional Water Quality Control Board-Central Valley  
11020 Sun Center Dr., #200  
Rancho Cordova, CA 95670-6114



Re: **28<sup>th</sup> Street Landfill**  
**Our Client: Sylvia Dellar Survivor's Trust**  
**Regional Water Quality Control Board Order No. R5-2004-0039**

Dear Mr. Rosenbaum:

I am writing to you on behalf of the Sylvia Dellar Survivor's Trust in response to your correspondence of February 24, 2006. You have requested written comments on the Proposed Cleanup and Abatement Order. The Trustee appreciates the opportunity to submit the following comments for your consideration prior to issuance of the Cleanup and Abatement Order (CAO).

1. Cleanup and Abatement Order Caption

First, the Trustee has requested that the Board consider a revision to the caption as it pertains to the CAO. It is our belief that the caption should reflect the fact that the property is part of the former City of Sacramento Landfill as reflected in the 1957 agreements between the Trustee's predecessors-in-interest, Alva D. Lucas, Rufus J. Cannon and the City of Sacramento. The property owners and the City entered into an agreement for the City to conduct waste fill on the subject property. As such, we will request that the CAO caption be revised as follows:

Former City of Sacramento Landfill;  
Sylvia Dellar Survivor's Trust;  
Rufus Lucas; and,  
S. Scollan Credit Trust.

2. Failure to Include Adjacent Parcels in the Order

In addition to the parcels identified in paragraph one of the draft CAO, there are three additional parcels upon which the City of Sacramento conducted landfill operations which were also owned by the Trust's predecessors-in-interest that are not included in the order. These three parcels are to the south of the Dellar Trust property and were also within the boundaries of the City's disposal operations between 1957 and 1963, pursuant to the terms of City Agreements Nos. 1017 and 1018.

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Records of ownership indicate that the current property owners of these parcels are R. Lucas, et al., (APN 003-0032-008, 003-0032-009) and the S. Scollan Credit Trust (APN 003-0041-003). These owners should be added as responsible parties.

The work of Alisto Engineering, as set forth in the December 2004 Site Summary Report, establishes that the aforementioned parcels were also part of the City of Sacramento Landfill activities. As such, it is the position and request of the Trust that the aforementioned parcels also be incorporated into the proposed CAO. These parcels are closer in proximity to monitoring wells C-14 and C-18. Under relevant and applicable decisions of the State Water Resources Control Board, as a matter of policy, all potential dischargers should be incorporated into the CAO. (State Water Board Resolution 92-49, Union Oil Company of California, Order No. 90-2 (SWRCB 90-2).)

Like the Dellar Trust property, these parcels were subject to differential settlement and degradation as a result of the City's landfill operations at that time. Failure to include these parcels and their respective owners in the draft Order will result in incomplete abatement of the nuisance and the accompanying threat to water quality.

3. Scope and Extent of Order

Paragraphs 8 through 17 contain a discussion of what has been captioned as the Dellar property. On behalf of the Trust, we are requesting that it be characterized as the former City of Sacramento Landfill since those operations extend from the railroad tracks to the river. The mandate, as set forth further in the CAO, is, among other things, for characterization of potential groundwater impacts. The operable units owned by the Scollan Credit Trust and R. Lucas are potential sources of discharges for which the CAO is seeking remedial investigation. As such, without their inclusion in the draft CAO, it would result in an incomplete determination as to potential dischargers.

4. Landfill Operational History

The landfill was in operation between 1957 and December 1963. The CAO states that operations on the Dellar Trust property began in 1957.

However, the City of Sacramento Landfill conducted its operations pursuant to City Agreements Nos. 1017 and 1018. These contracts should be specifically referenced in the order for the following reason. The Trust previously contacted the City requesting and demanding its participation in responding to the previous directives of the Regional Water Quality Control Board. The City did not agree with the request of the Trust. Thereafter, the Trust initiated legal proceedings against the City seeking to enforce the terms and conditions of the aforementioned agreements. In response thereto, the City has taken the position that it is not a responsible party and in fact denied the conduct of any operations on the property now held by the Trust. As a result, these agreements should be expressly referenced in the order anticipating the City's continued objection to any responsibility despite the existence of those agreements. Liability assumed by contract is an important factor in

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the Regional Board and State Board's determination of potentially responsible parties and this should be reflected in the Regional Board's Cleanup and Abatement Order.

The Cleanup and Abatement order also refers to the agreements as a "lease." Instead, we believe they are more appropriately characterized as licenses to operate a landfill rather than a lease.

5. City Compliance Activities at the Dellar Trust Property

The CAO should reflect all of the City's actions to address the problems at the Dellar Trust property over the past decade. None of the history has been included regarding the City's activities at the site after landfilling was complete, including site assessments and corrective action plans. This history should be included in the factual recital of the CAO.

The City has admitted its responsibility to mitigate the condition of the Dellar Trust property in an October 27, 1995 memorandum relating to the subject, a copy of which is enclosed. The memo was submitted by Violet Chu, the City's Senior Engineer in the Solid Waste Division, for Bruce Alei, the City's supervising real estate agent. Shortly thereafter, on December 18, 1995, City consultant Harding Lawson prepared an amended closure plan for the City of Sacramento that incorporated detailed a grading plan for the Dellar Trust property, but the City has failed to implement it.

The completion of an environmental site assessment of the Dellar Trust property in June 2003 by the City's consultant, SCS Engineers, should also be mentioned. That document contains important information regarding the condition of the property and the cause of the degraded condition. It includes a discussion of findings and opinions regarding the state of the property, including observations of the water quality risk posed by the property and adjacent property, history of use of the property, current land use, regulatory activity, and a recommendation to better assess the environmental conditions of the property through additional investigation. The SCS report also recommends that "the Subject Site should be graded to drain in a manner that does not allow stormwater to leach beneath the refuse at the site."

6. Related Closure of the 28<sup>th</sup> Street Landfill

The City of Sacramento is under Waste Discharge Order No. R5-2004-0039 for the closure of the 28<sup>th</sup> Street Landfill. As a matter of state and federal law, the City's landfill operations at the Dellar Trust property were part of the City's overall disposal scheme. However, the draft CAO makes no provision for ensuring that closure activities on the Dellar Trust property are consistent with and do not conflict with closure on the parcels now owned by the City of Sacramento.

This need for conformance and consistency should be noted and made a requirement of the draft Cleanup and Abatement Order. The Regional Board has ordered that closure commence at other sites in the past. Closure of the Dellar Trust property should be ordered by the Regional Board, in an appropriate time frame.



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7. Risk Assessment

The Trust believes that the requirement for a Risk Assessment (R/A) is premature. Instead, the order should be structured in such a way as to require an R/A if the results of the investigation so warrant. Typically, the R/A is a later-in-time portion of the RI/FS process. Yet, in this case, it is one of the very first deliverables requested by the order prior to completion of the evaluation and investigation of groundwater impacts. That data would be necessary for the preparation of an R/A which, depending on the results of the investigation, may or may not be warranted.

8. Water Quality

A. The Source of the Volatile Organic Compounds

The Trust also questions the contention of the Regional Board that the detection of volatile organic compounds (VOC) is a result of the City's waste disposal activities on the property.

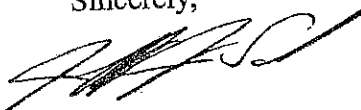
It is the position of the Trust that the presence of the VOCs, detected downgradient of the property, may be the result of industrial operations that took place off of the Dellar Trust property. These industrial operations, which include automobile shops, salvage yards and a dry cleaner, are far more likely to be the source of the VOCs than the Dellar Trust property. The Trust requests that the owners and the operators of these facilities be named as responsible parties in the CAO.

B. Background Water Quality

With respect to background water quality, the background wells referred to by the City of Sacramento are located very near the American River, a major groundwater recharge area. These wells, adjacent to a body of high quality surface water, may not be representative of background water quality in the larger shallow groundwater basin in the area. This fact should be noted in the CAO as it is important in the evaluation of the degree of groundwater degradation caused by the City of Sacramento's larger landfill operations.

Thank you again for this opportunity to submit comments on the draft order. Should you have any questions, please do not hesitate to call.

Sincerely,



Jeffory J. Scharff

JJS/hv

Enclosures

cc: Client

Gerry Hicks, Esq.



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April 18 2006

Steve E. Rosenbaum  
Senior Engineering Geologist  
California Regional Water Quality Control Board  
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11020 Sun Center Drive, #200  
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**Re: Comments on Draft Cleanup and Abatement Order for the Dellar  
Property Landfill**

Dear Mr. Rosenbaum:

The City of Sacramento (City) is in receipt of your **Draft Cleanup and Abatement Order for the Dellar Property Landfill, Sacramento County**, dated 24 February, 2006. We appreciate your allowing additional time to prepare our responses to the Draft Cleanup and Abatement Order (CAO). Our comments are given herein as both general comments on the overall and comments specific to paragraphs in the CAO.

**GENERAL COMMENTS**

1. The CAO is issued to two parties as dischargers – the City of Sacramento and the Sylvia Dellar Survivor's Trust. As such, the two named parties must agree to the terms of the CAO and the division of responsibilities between parties, including financial responsibilities, in order to comply with the CAO. However, the City has attempted to work with the property owners previously, without success, and is currently involved in litigation with the property owners (**Sylvia Dellar Survivor's Trust v. City of Sacramento** – Sacramento Superior Court Case No. 05AS01152). Because the City is in litigation with the property owner, no

Mr. Steve B. Rosenbaum

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agreement with the property owner can be accomplished at this time regarding the CAO. The City is aware of no authority for an apportionment of liability among dischargers. The City, therefore, cannot agree to the terms of this order unilaterally. Before joint action under the CAO can be achieved, current litigation must be resolved and a new agreement reached between the property owner and the City regarding this CAO.

2. In 2003, the Central Valley Regional Water Quality Control Board (RWQCB) requested that the owners of the Dellar property submit a Corrective Action Plan (CAP) under *Section 20080(g) of Title 27 – CAI Units*. This did not occur and indicates the property owner's reluctance to take responsibility under this regulatory requirement. The naming of the City in this subsequent draft CAO appears to be an attempt to saddle the City with this responsibility even though the City never owned the property and never disposed of waste materials on the property without the knowledge and consent of the owners. The City takes the position that the owners of the property are responsible for closure of the property, as originally determined by RWQCB in 2003.
3. *Section 20080(g) of Title 27 – CAI Units* states (paraphrased) that persons responsible for discharges at closed, abandoned, or inactive (CAI) units may be required to develop and implement a corrective action program if water quality impairment is found. The City feels that RWQCB has failed to show that water quality impairment has occurred from the subject property. Further, RWQCB has made some flawed scientific findings in an attempt to show water quality impairment due to landfilling on the Dellar property in this matter. This is discussed in detail below. Therefore, in the opinion of the City, there is no confirmed water quality impairment due to land disposal on the Dellar property and, therefore, no basis for the CAO.
4. The CAO seems to imply that the City of Sacramento is the sole disposer of wastes to the subject property. While this may be true for the relatively brief period of approximately four years (1959-1963) during which time waste disposal occurred under contract with the property owners, disposal activities on the site appear to have occurred after that time. RWQCB acknowledges in Finding #6 that "unauthorized or unregulated public disposal is also believed to have occurred historically on privately owned parcels in the Old Fill Area." Therefore, the City believes that the owners of the property must take responsibility for disposal activities that occurred on their property for the years in which the City was not the operator of disposal activities on site. In addition, as set forth above, to the extent waste was disposed on the site pursuant to contract with the owner, both the City and owners are "dischargers" and the City is unaware of any authority for apportionment between dischargers.

## **COMMENTS ON SPECIFIC PARAGRAPHS IN DRAFT CAO FINDINGS**

### **Paragraph 1**

The first sentence of this paragraph states that "the City of Sacramento is the former operator of the property, a 29-acre unlined landfill..." thereby insinuating that the City was the sole depositor of waste materials on the property. City of Sacramento Resolution No. 787 was adopted by the City Council on December 26, 1957, authorizing execution of a contract between the City and the property owners to, among other activities and considerations, dispose of refuse on the site. Correspondence from the City to the property owners dated December 20, 1963 states that "Inasmuch as the actual land fill on the property has been completed for approximately two months..." This shows that City's contractual operations ceased on the property on or about October 1963.

However, a March 1972 aerial photograph clearly shows activity on the southeastern portion of the property with recently disturbed ground surface, haul roads, at least four vehicles, and what appears to be a landfill working face. This demonstrates that there was land modification and landfiling activities occurring after the contractual period of City involvement in 1963. Based on March 2006 interview with a former City employee at the 28<sup>th</sup> Street Landfill (now retired), filling activities by others was occurring on the Dellar property during the early 1970's time period. This collaborates the aerial photographs.

Therefore, this paragraph should acknowledge that while the City of Sacramento did dispose of wastes on the property from about 1959-1963, under contract with the owners at the time, there may have been other waste disposal operations occurring on the site prior to, or following, the City's disposal period. In addition, the CAO should also acknowledge that illegal dumping of waste may have occurred over many of the years when the City was not contracted to dispose waste at the site, and this practice was not controlled by the property owners.

### **Paragraph 3**

The first sentence implies that landfill operations were conducted throughout the area, including the Dellar property, for 31 years (1940-1971). It should be clarified here (although it is mentioned later) that City of Sacramento landfiling operations specific to the Dellar property were limited to approximately 4 years (1959-1963), as far as records indicate.

The paragraph also lists current property owners, acres, property locations and active periods for waste disposal on nine parcels that are not the subject property of this CAO. These are not relevant to this CAO and should be removed. Some of these properties have already been subject to closure and corrective action as part of the 28<sup>th</sup> Street Landfill.

**Paragraph 4**

This paragraph needs to clarify that the City-owned parcels not only were included in the closure of the 28<sup>th</sup> Street Landfill, which has been formally closed in accordance with regulations in effect at the time, but also that closure was approved by the RWQCB, California Integrated Waste Management Board (CIWMB) and local enforcement agency (LEA). It also needs to acknowledge that non-City owned parcels, including the Dellar property, were specifically excluded from the 28<sup>th</sup> Street Landfill closure and post-closure activities by the CIWMB (CIWMB letter, March 3, 1993).

**Paragraph 6**

Public dumping was known to have taken place in the northwest area of the City-owned 28<sup>th</sup> Street Landfill properties in what is known as the Inactive Waste Unit (site of the present City Corporation Yard buildings). The public dump was reportedly managed by a salvage contractor, and these operations ceased in about 1959 (Treadwell and Rollo, 2005). Therefore, public dumping may have occurred in the area, including the Dellar property, prior to City operations. Also, this paragraph states that "unauthorized or unregulated public disposal is also believed to have occurred historically on privately owned parcels in the Old Fill Area." It should be clarified that this includes the Dellar property.

**Paragraph 7**

This paragraph estimates the amount of waste deposited in the Old Fill Area. Since this Draft CAO is relevant only to the Dellar property, there is no need to include estimated waste deposition on other properties. This paragraph should be amended to estimate only the wastes deposited on the Dellar property.

**Paragraph 12**

This paragraph references the presence of methane in the Dellar property landfill, and insinuates that may be the cause of subsurface fires. This is misleading. Since this paragraph states that: 1) "no gas monitoring wells have been installed to date," (2) "it is unknown whether landfill gas (LFG) is an issue at the site," and (3) "limited bar hole punch sampling conducted by CIWMB in March 2003 showed low concentrations of methane (<500 parts per million by volume, ppmv) in subsurface soil at the landfill," then it is inappropriate to insinuate LFG is present and may have contributed to subsurface fires.

It should also be noted here that the City of Sacramento has installed a network of LFG monitoring wells in soils around the perimeter of the formally-closed 28<sup>th</sup> Street Landfill, as approved by the LEA and CIWMB. A post-closure gas monitoring program is being conducted by the City in accordance with California Code of Regulations (CCR) Title 27 regulations, and the City is in full compliance with those requirements.

**Paragraph 13**

The first sentence states that groundwater elevations at the "landfill" are strongly influenced by water levels in the American River. It is unclear if this is a reference to subsurface conditions specific to the Dellar property, or the larger area including City-owned and privately-owned properties. It is suggested that the term "landfill" be defined.

The paragraph also concludes that the direction of ground water flow is relatively constant from generally northeast to southwest with slight seasonal variations. It appears that this conclusion was reached by looking at the equipotential lines shown on figures submitted in the Semi-Annual Water Quality Monitoring Reports for the City of Sacramento 28<sup>th</sup> Street Sanitary Landfill. Unfortunately, this conclusion is an oversimplification of a complex ground water system.

It is well known that there is significant variability in ground water flow, at least near the river. Water levels are measured quarterly and these data points are used to generate contour plots using a program known as Surfer®. While consistent with Waste Discharge Report (WDR) monitoring report requirements, the use of this software, interpretation of the data by the plotting software, and the equipotential lines drawn may not represent the actual direction of ground water flow (at right angles to the equipotential contours from higher to lower elevations). This is especially true where limited data points exist, such as to the west of the 28<sup>th</sup> Street Landfill, where the program algorithms can create anomalous lines.

Therefore, the actual direction of ground water flow in the area of the Dellar property may not be southwest to west-southwest as concluded by RWQCB and is almost certainly not seasonally consistent. Also, ground water flow directions can be erroneous if the data points are not comparable. For instance, wells completed in slightly different zones may show significantly different water levels – skewing ground water flow maps with areas of erroneously high and low contours. It is highly unlikely that the actual pattern of ground water flow in the area has such a convoluted pattern of highs and lows as shown in the attached figures (Exhibit A) from the most recent Semi-Annual Water Quality Monitoring Report.

What is almost certainly happening in the ground water flow pattern is that during winter months when the American River is at a higher elevation, river water flows into the ground water system, moving generally south in the vicinity of the 28<sup>th</sup> Street Landfill and nearby area. During this high water period, ground water flow direction near the river is reversed, flowing away from the river instead of toward it. During dry months when the American river is lower, ground water resumes northerly flow toward the river. At some point south of the river, the influence of infiltrating river water and groundwater flow reversal becomes negligible. At this point (or line), ground water flow may be very minimal, approaching static conditions. This is confirmed by the well hydrographs (Exhibit B) where it can be seen that well B-4 water levels are almost identical to the river water levels, especially during the mid-1990s, while the wells farther inland, such as

well C-14 and D-20 have almost identical water levels that show less fluctuation than the river and well B-4.

Therefore, the flow directions stated in this paragraph are based on software-generated equipotential lines that are probably not valid in the area of the Dellar property, and may be incorrect. This is important because the assumption of a consistent ground water flow direction to the southwest is the basis for later assumptions regarding ground water impairment at the Dellar property.

#### **Paragraph 14**

Although the historical record seems to support the statement that wastes are probably in contact with ground water (i.e., waste up to 62 feet thick in a boring with ground water depths about 18-24 feet), it is very unlikely that this is the case. Although excavations probably occurred onsite to construct trenches for waste disposal and yield soils for berms, it is probably not feasible for the trenches to have been excavated significantly below water. For instance, although a boring near monitoring well C-13 was said to have encountered wastes 62 feet thick, well C-13 has a depth to water of about 35 feet, meaning the wastes would have to have been placed in an excavation that was over 25 feet into ground water. Landfill operations at the time would probably have excavated trenches to approximately the ground water level, but not significantly below it. This is confirmed by aerial photographs taken during the period of City waste disposal (1959, 1961, and 1963) where disposal areas do not show standing water. Also, in a March 23, 2006 interview with a former City employee (retired) at the 28<sup>th</sup> Street Landfill, he stated that it was common practice in the early 1970's to excavate trenches only until groundwater was encountered, not below it. Therefore, the data used in this finding are highly suspect.

#### **Paragraph 15**

This paragraph concludes that the wells listed represent up-gradient, side-gradient, and down-gradient locations. This appears to be based on the flow direction assumptions discussed under Paragraph 13, above. Even if these designations are true, which they probably are not, they are not valid for up-gradient and down-gradient comparisons of water chemistry because they represent different types of groundwater – water influenced by the river seasonally, and water not influenced by the river seasonally. It would be almost as valid to call the water chemistry in the American River “background” and any groundwater chemistry result above this to be “impaired.” Given the greater natural mineralization of groundwater compared to naturally low mineralization of river water derived from rain and snow precipitation, this would be an invalid conclusion.

#### **Paragraph 16**

This paragraph states that “monitoring of the Dellar Property area wells from 1986 to 2005 has revealed inorganic constituents above background concentrations in the

downgradient wells, indicating a release from the landfill." The paragraph presents inorganic monitoring data from well B-4 ("Background") and compares it to "Downgradient" wells C-14 and D-20. This comparison is inappropriate and, therefore, the conclusion that the data indicate a release from the landfill is also inappropriate.

As stated above, well B-4 is located very near the American River and is influenced by seasonal river water infiltrations. Wells C-14 and D-20 are located hundreds of feet from the river and are not influenced by infiltrating river water, at least not to the degree of B-4. Therefore, the water chemistry for B-4 is naturally different from wells farther inland where the ground water is more mineralized due to longer contact time with aquifer materials and lack of river "flushing" or mixing. To show this point, inorganic data from the 3<sup>rd</sup> quarter 2005 monitoring (most recent available) for the five constituents listed in the Draft CAO, were grouped according to the sampling point's distance from the American River. The data table (Exhibit C) clearly shows that wells nearest the river have the lowest concentration of these constituents and the concentrations increase with distance from the river. In every case, the average of the well groups for each constituent increases significantly in correlation to the distance away from the river. Also, the inorganic concentrations for wells C-14 and D-20 are very similar to other wells located a similar distance from the river (e.g., C-12).

Therefore, comparison of inorganic data from wells influenced by the river to wells farther inland that are not influenced by the river, and concluding that the differences are due to landfill impacts, is not valid. Comparison between well B-4 data and wells C-14 and D-20 data is a comparison of different water types and not appropriate for concluding landfill impacts. The City will consider these aquifer characteristics in drawing conclusions about possible landfill impacts in future semi-annual water quality reports for the 28<sup>th</sup> Street Landfill.

#### Paragraph 17

This paragraph focuses on certain organic compounds that have been detected in well C-14 and insinuates that because these benzene compounds have not commonly been detected in other wells around the 28<sup>th</sup> Street Landfill, they must be coming from the Dellar property, even though it is conceded that "an offsite source" may be responsible for detections of MTBE (methyl tert-butyl ether).

According to City of Sacramento staff, the property located at 205 23<sup>rd</sup> Street, the location of well C-14, was, until recently, an auto repair and salvage operation. This operation existed for at least a decade and staff reported that vehicles, in varying states of repair/salvage, were frequently parked "right over the C-14/D-18 wellheads." City staff also reported that a "chemical odor" was present in the area during many sampling episodes. The detection of these benzene compounds, all of which are common components in gasoline and metal degreasing solvents used to clean automotive parts, combined with the detection of MTBE, a fairly recent additive to gasoline, certainly points to a source other than the Dellar property and to a more recent contaminant source.



It is highly unlikely that these compounds (including MTBE) would have originated as a result of City waste disposal on the Dellar property ending in 1963.

The data presented in this paragraph do not support the assertion that the Dellar property is a source of organic ground water contaminants and therefore needs to be investigated and mitigated. With other obvious, potential sources of these compounds in the vicinity of well C-14, the evidence presented does not support the RWQCB conclusion. Also, with similar waste disposal having occurred on other properties in the area west of the 28<sup>th</sup> Street Landfill, why would these compounds only be detected in well C-14? The compounds listed have not been detected in well C-12 or D-20 even though these wells are a similar direction and distance from known disposal areas.

#### Paragraph 21

This paragraph concludes that "landfill wastes from the Dellar Property have caused or contributed to exceedences of groundwater water quality objectives." However, the data given and assumptions made by RWQCB in the Draft CAO in support of this conclusion, as discussed above, are invalid. Neither the inorganic data, nor the presence of the cited benzene compounds, are proof of ground water quality impact from the Dellar property. The inorganic constituents cited are at similar concentrations in others wells in the area located a similar distance from the American River, so there may be no inorganic constituent impacts at all. The organic chemicals cited may represent an impact, but the data support that it is most likely from a more recent offsite source and not a result of solid waste disposal activities on the Dellar property that terminated (as far as the City of Sacramento is concerned) over 40 years ago.

#### Paragraph 25

This paragraph concludes "The landfill is a CAI Unit under Title 27 (see Finding 8) and has impacted groundwater water quality (see Findings 16 and 17)." (underline added). As discussed above, Findings 16 and 17 are incorrect in their assumptions and conclusions. Therefore, the conclusion that the landfill has impacted groundwater water quality is not valid.

### **CONCLUSIONS**

- The basis of the CAO is that the RWQCB believes that groundwater impairment has occurred as a result of wastes deposited on the Dellar property. However, the assumptions used are scientifically incorrect or questionable, and the data do not support such a conclusion. There is no evidence of a release of contaminants from the Dellar property and, therefore, no basis for this CAO.
- Even if existing data supported the assumption of groundwater impairment, the City cannot participate in a jointly-named CAO while in litigation with the other party. To date, the property owners have not cooperated with the City or

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RWQCB on issues pertaining to this property and, given these prior situations, it is not reasonable to assume that the property owners will participate in the CAO to a level of their responsibility as the land owners.

- The City cannot unilaterally agree to the terms of the draft CAO without first resolving current litigation with the property owners, obtaining an agreement between the City and the property owners regarding the respective level of involvement, and gaining site access permission from the property owners in order to accomplish the work.
- Given these unresolved issues, the City cannot agree to the tasks outlined in the CAO nor the deadlines given therein. If it is correctly demonstrated that a groundwater impairment condition exists and the legal issues can be resolved between the land owner and the City, the City will work with RWQCB and the land owner to meet all regulatory requirements.

If you have any further questions regarding this response, please contact Jerry Hicks at (916) 808-5346. Also, City staff and our consultants are available to meet with RWQCB to discuss these issues and comments.

Thank you again for the opportunity to review and comment on this Draft CAO.

Very truly yours,

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GCH:kjm

cc: Marty Strauss  
Pat Sullivan